

## THE NICEST JINS WORKSHOP

### Neutrons in Solid-State Chemistry and the Earth Sciences Today and Tomorrow

March 12<sup>th</sup> – 16<sup>th</sup>  
Pollard Auditorium, Oak Ridge, Tennessee

#### AGENDA

#### Wednesday, March 12, 2003

##### Angus Wilkinson - Chair

8:00 a.m.	Continental Breakfast	
9:00 a.m.	Welcome – Introduction to JINS/ORAU	Lee Magid
9:15 a.m.	Introduction to neutron production and neutron properties.	Ian Anderson
10:00 a.m.	Overview of presentation covering the contributions of neutron scattering to condensed matter science – What can neutrons tell us that is both important and inaccessible by other techniques?	John Parise
10:30 a.m.	Break	
10:45 a.m.	SNS and the future of neutron scattering in the U.S.	Thom Mason
11:15 a.m.	Basic concepts in neutron experimentation. Time-of-flight versus angle dispersive diffraction. Spectrometer design options.	Kent Crawford
12:00 noon	Lunch	
		<u>Lee Magid - Chair</u>
1:00 p.m.	Single crystal neutron diffraction.	Chick Wilson
2:00 p.m.	Example: Single crystal diffraction studies.	Bryan Chakoumakos
2:30 p.m.	The Rietveld method as a structural tool.	Jim Jorgensen
3:30 p.m.	Break	
3:45 p.m.	The application of the Rietveld method to problems in zeolite chemistry.	Brian Toby
4:45 p.m.	Sample environment for variable temperature and in-situ diffraction studies.	Louis Santodonato
5:15 p.m.	Example: Variable temperature or in-situ diffraction studies.	Thomas Hansen
6:00 p.m.	Set up Posters	
7:15 p.m.	Dinner – Garden Plaza Hotel	
8:30 p.m.	Research Poster Session – Garden Plaza Hotel	

**Thursday, March 13, 2003****Chun Loong - Chair**

8:00 a.m.	Continental Breakfast	
9:00 a.m.	An introduction to diffraction at high pressures using neutrons.	Ross Angel
9:45 a.m.	Example: High-pressure neutron scattering studies.	John Loveday
10:30 a.m.	Break	
10:45 a.m.	Neutrons and magnetic structures.	Mohana Yethiraj
11:45 a.m.	Example: Studies of magnetic materials.	Richard Harrison
12:15 p.m.	Lunch	

**Nancy Ross - Chair**

1:15 p.m.	Experimental inelastic scattering (phonon density of states, dispersion curves, QENS and chemical spectroscopy.	Chun Loong
2:15 p.m.	QENS for the study of motions in inorganic solids.	Bjoern Winkler
3:00 p.m.	Introduction to phonons and their relationship to phase transitions and thermal expansion.	Martin Dove
4:00 p.m.	Break	
4:15 p.m.	Example: Inelastic scattering studies.	Chun Loong
5:00 p.m.	Current and future neutron scattering instrumentation.	Collin Broholm
5:30 p.m.	Brief presentations on new instruments.	Instrument Scientists
6:00 p.m.	Getting access to neutron scattering instrumentation. Writing proposals for beam time etc.	Greg Smith
6:30 p.m.	Instrument Poster Session - Buffet – Heavy Hors d'oeuvres – Garden Plaza Hotel (Poster session for facility personnel. Showcase instrument capabilities to students).	

**Friday, March 14, 2003****Brian Toby - Chair**

8:00 a.m.	Continental Breakfast	
9:00 a.m.	Introduction to texture studies.	Rudi Wenk
10:00 a.m.	Investigating the elastic and plastic properties of polycrystalline geological materials using neutron diffraction.	Steve Covey-Crump
10:30 a.m.	Break	
11:00 a.m.	Glasses and disordered materials: theory and methods.	Simon Billinge
12:00 noon	Determination of partial structure factors in disordered materials.	David Price
12:30 p.m.	Lunch	
1:30 p.m.	Tours of HFIR/SNS Site	

**Saturday and Sunday, March 15-16, 2003, Spallation Neutron Source, 701 Scarboro Road**

8:30 a.m.	Convene 1.5-day hands on Rietveld Course	Brian Toby Ross Angel
8:30 a.m.	Convene parallel 1.5-day PDF/disordered materials hands on course. Enrollment of 25 people	Simon Billinge Thomas Proffen